

M. SC. (ORGANIC CHEMISTRY) SEM-III (CHOICE BASED
CREDIT & GRADE SYSTEM) : SUMMER - 2018

SUBJECT : ADVANCED ORGANIC REACTION MECHANISM

Day : Friday
Date : 20/04/2018

S-2018-0878

Time : 03.00 PM TO 06.00 PM
Max. Marks : 60

N.B.:

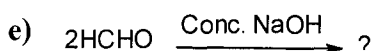
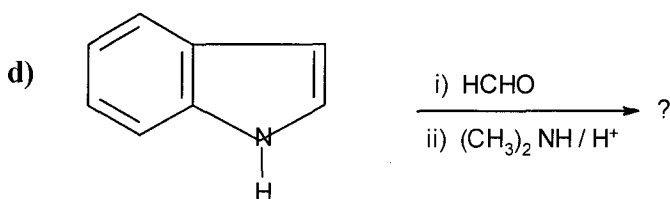
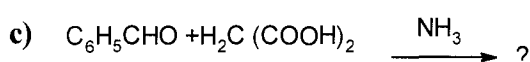
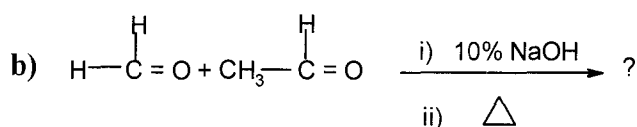
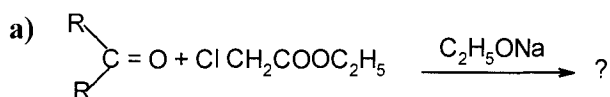
- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION - I

Q.1 Attempt **ANY THREE** of the following: [15]

- a) Explain the formation and geometry of carbanions.
- b) Discuss the mechanism and applications of Dieckmann condensation.
- c) What is Claisen Condensation? Discuss its mechanism and applications.
- d) How are carbenes generated? Discuss the reactions of carbenes with alkenes.
- e) Write a note on hydrolysis of haloforms.

Q.2 Predict the product/s with mechanism of **ANY THREE** of the following: [15]



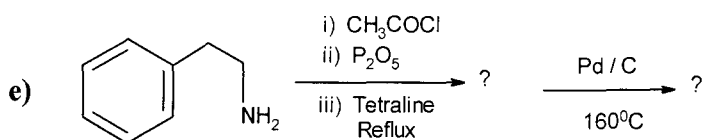
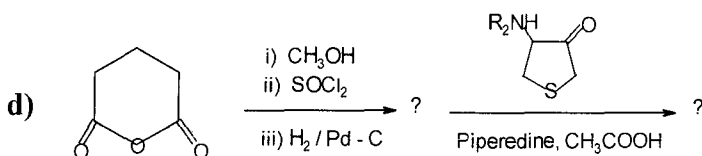
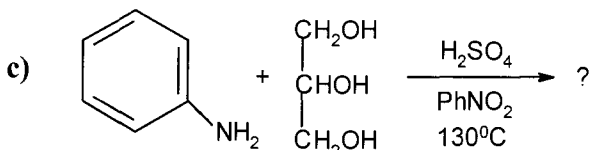
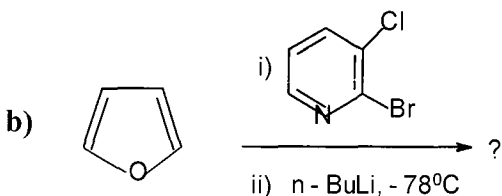
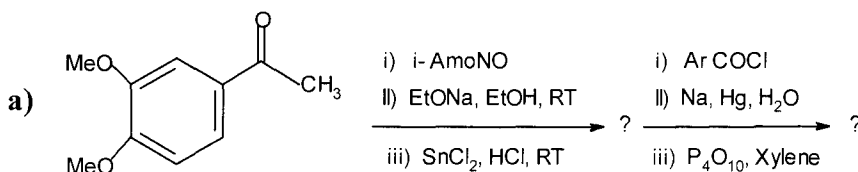
P.T.O.

SECTION – II

Q.3 Attempt ANY THREE of the following: [15]

- Explain the synthesis of chloroquine.
- Write Freidlander synthesis of quinoline.
- Why an electrophilic substitution reaction in indole takes place at C₃ and not at C₂ position? Explain with example.
- What is Chichibabin reaction of pyridines? Explain with suitable example.
- What is the product of Villsmeyer-Haack reaction with furan? Give its mechanistic pathway.

Q.4 Predict the product/s with mechanism for ANY THREE of the following: [15]



* * * *